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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/775,238	02/01/2001	Ian B. Maclean	NORT0090US(13366RRUS02U)	8146

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TROP PRUNER & HU, PC
1616 S. VOSS ROAD, SUITE 750
HOUSTON, TX 77057-2631

EXAMINER

RYMAN, DANIEL J

ART UNIT	PAPER NUMBER
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2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary	Application No.	Applicant(s)	
	09/775,238	MACLEAN, IAN B.	
	Examiner	Art Unit	
	Daniel J. Ryman	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-7, 9, 10, 12-21, 23-25 and 27-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-7, 9, 10, 12-21, 23-25 and 27-33 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 3-7, 9, 10, 12-21, 23-25, and 27-33 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

2. Claim 14 is objected to because of the following informalities: in line 3, "comprising the General Packet" should be "comprising the Serving General Packet". Appropriate correction is required.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 3-7, 9, 10, 12-17, 25, 27, 29-31, and 33 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.
5. To comply with the subject matter eligibility requirement of 35 U.S.C. § 101, a claim must pass the following test: (1) Does the claimed invention fall within one of the statutory classes? If not, then the claim is non-statutory. (2) If it does, does the claimed invention fall/cover/include a judicial exception? If not, the claim is statutory. If so, the claim is only statutory if there is a practical application (a) by physical transformation or (b) that produces a useful and tangible result.
6. In this case, claims 3, 7, 9, 27, and 29 (directed to a method); claims 4 and 30 (directed to a method); and claims 5 and 6 (directed to a method) meet Question One since they fall within the "process" statutory class of 35 U.S.C. § 101. However, these claims fail Question Two since

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they fall within a judicial exception, i.e. the claims are an attempt to seek patent protection of a computer program in the abstract. This is evidenced by claims 10, 12-17, 25, 31, and 33 which demonstrate that the methods may be implemented using computer programs. Since the claims are merely trying to claim a “computer code” in the abstract, the claims fall within the “abstract idea” judicial exception.

7. Once the answer to Question Two is “yes,” i.e. the claimed invention falls under a judicial exception, the claimed invention is only statutory if it produces either a practical application by physical transformation or a practical application that produces a useful and tangible result. In this case, there is no practical application by physical transformation since the method does not manipulate any physical structure. In addition, there is no practical application that produces a useful and tangible result since, when implemented in software, the claims never require that the software be executed by a computer. Therefore, the claims are non-statutory.

8. In order to make claims 3-7, 9, 27, 29, and 30 statutory, Applicant could amend the claims to turn the method steps into structural limitations, e.g. “means for receiving” and “means for translating”. Applicant could also amend the claims to turn the claims into a purely “software” claim by amending the claims to read, for example, “A computer-readable medium encoded with a data structure [or software] for receiving . . .”

9. Claims 10 and 25 recite: “An article comprising at least one storage medium containing instructions that when executed cause a system to [perform certain steps].” However, current USPTO practice requires that software be claimed using the following form: “Computer-readable medium encoded with a data structure for . . .” Any other language fails to define structural and functional interrelationships between the data structure and the computer software

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and hardware components which permit the data structure's functionality to be realized. As such, any other language for claiming a computer program is non-statutory.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 3, 7, 9, 10, 12, 17, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (USPN 6,515,974), of record, in view of Rao (USPN 6,535,511), of record.

12. Regarding claims 3, 9, and 10, Inoue discloses a method of communications between first and second wireless networks, comprising: receiving a first data packet having a header and a payload portion, the header of the first data packet containing a private network address of a first node in the first wireless network (Figs. 2 and 3 and col. 9, lines 46-61, where the relay device receives packets containing private source and destination addresses); translating, by a network address translator, the private network address in the header to a public network address (Figs. 2 and 3 and col. 9, lines 46-61, where "the packet relay device 4 has a NAT (Network Address Translation) function for translating source and destination addresses of a packet which is routing controlled to the first interface from the private network 1 side into global addresses"); and sending a second data packet containing the public network address translated from the private network address to a second node in the second wireless network (Figs. 2 and 3 and col.

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9, lines 46-61, where the packet relay device relays the packet having the global addresses into the Internet side).

Inoue does not expressly disclose that the payload portion contains the private network address or translating the private network address in each of the header and payload portion to a public network address. Rao teaches, in a packet communication system using network address translation (NAT), that “some applications embed addressing information in their message payload data” (col. 4, lines 1-6) to “initialize or set up a communication session with another application” (col. 4, lines 1-6) where “[t]his embedded addressing information is also to be translated when the packet is crossing a boundary” (col. 1, lines 45-48). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have a private network address in the payload portion and to translate the private network address in each of the header and payload portion to a public network address to permit communication between applications existing in disparate addressing systems.

13. Regarding claim 7, Inoue in view of Rao discloses determining whether to establish a data session on a packet data network on behalf of a roaming mobile station through the first wireless network or the second wireless network (col. 11, lines 21-39, where home agents keep track of a mobile station as it moves between the private network and the public network).

14. Regarding claims 12 and 27, Inoue in view of Rao discloses that translating the private network address in the payload portion of the first packet is performed by identifying a string in the payload portion of the first packet containing the private network address (Rao: col. 4, lines 60-67, where a table is used “to identify application specific embedded addressing information in IP packets,” see also col. 4, lines 9-19).

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15. Regarding claim 17, Inoue in view of Rao discloses that the system receives the first packet from the first wireless network associated with a first network operator and sends the second packet to a node in a second wireless network associated with a second network operator (Inoue: col. 3, lines 8-15, where the private address space is operated by a large organization that uses a different addressing configuration than the public internet or another large organization, see also col. 4, lines 29-37).

16. Claims 4-6, 13-16, 18-21, 23-25, and 28-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forslow (USPN 6,608,832) in view of Inoue et al. (USPN 6,515,974), of record, in further view of Lager et al. (USPN 6,636,502), in further view of Rao (USPN 6,535,511), of record.

17. Regarding claims 4, 5, 18, 19, 24, and 25, Forslow discloses a method of communications between first and second wireless networks, comprising: receiving a first Internet Protocol (IP) packet having a payload portion containing a General packet radio service Tunneling Protocol (GTP) data unit (col. 4, lines 13-24, where the GTP data unit is sent down a protocol stack including IP, such that the GTP data unit is located in the payload portion of an IP packet), the IP packet having a header containing a network address of a first node in the first wireless network (col. 3, lines 36-41, where the first node is an originating GPRS support node, e.g. an SGSN or GGSN, and where it is implicit that the IP packet's header contains the address of the source node and the address of the destination node), and the GTP data unit in the payload portion of the IP packet containing the network address of the first node (col. 4, lines 13-24, where "routing information" is added "to encapsulate PDUs," wherein it is implicit that "routing information"

includes the source address of the originating GPRS support node and the destination address of the destination GPRS support node).

Forslow does not expressly disclose that the network address of the first node is a private network address; translating the private network address in the header to a public network address; and sending a second IP packet having a header and payload portion to a second node in the second wireless network, the header portion of the second IP packet containing the public network address translated from the private network address. Inoue teaches, as prior art in a wireless packet communication system, that while some IP networks use global, i.e. public, addresses, other IP networks utilize private addresses due to a shortage of global, i.e. public, addresses (col. 3, lines 8-15, see also col. 3, lines 31-35). In addition, Inoue teaches using network address translation (NAT) to communicate between networks using private addresses and networks using public addresses (col. 3, line 40-43). Further, Lager teaches, in a GPRS system, that various intra-PLMN networks that use private addressing are interconnected using an inter-PLMN network that uses public addressing, where it is implicit that this permits an SGSN to communicate with GGSNs on different PLMNs (Figs. 2 and 3 and col. 4, lines 24-41). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the originating GPRS support node of Forslow use a private address and to have the destination GPRS support node of Forslow be reachable by a public address, as outlined in Inoue and Lager, in order to have the originating node be addressed in a manner that conserves public IP addresses and to have the destination node, which is tied to the public IP network, be addressed in a manner that it can readily communicate with the public IP network. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have

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the network address of the first node be a private network address to conserve public IP addresses; to translate the private network address in the header to a public network address; and to send a second IP packet having a header and payload portion to a second node in the second wireless network, the header portion of the second IP packet containing the public network address translated from the private network address to enable the first node to communicate with nodes over the global IP network.

Forslow in view of Inoue in further view of Lager does not expressly disclose translating the private network address in the payload portion to a public network address or sending a second IP packet containing the public address translated from the private network address in the payload portion. However, Forslow in view of Inoue in further view of Lager does disclose having a network address in each of the header and payload portion (Forslow: col. 4, lines 13-24, where the GTP layer and the IP layer will contain network addresses). In addition, Forslow in view of Inoue in further view of Lager discloses translating address information between public and private network address spaces (Inoue: col. 3, line 40-43). Rao teaches, in a packet communication system using network address translation (NAT), that “some applications embed addressing information in their message payload data” (col. 4, lines 1-6) where “[t]his embedded addressing information is also to be translated when the packet is crossing a boundary” (col. 1, lines 45-48). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have a private network address in the payload portion and to translate the private network address in the payload portion to a public network address to ensure that all of the addressing information in a packet is properly translated.

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18. Regarding claim 6, Forslow in view of Inoue in further view of Lager in further view of Rao discloses that receiving the first IP packet containing the private network address of the first GPRS support node comprises receiving the first IP packet containing the private network address of a Serving GPRS Support Node, and wherein sending the second IP packet to the second GPRS support node comprises sending the second IP packet to a Gateway GPRS Support Node (Forslow: col. 3, lines 36-41, where the originating serving GPRS node is either an SGSN or a GGSN and where the destination GPRS serving node is the other of an SGSN or GGSN).

19. Regarding claims 13 and 23, incorporating the rejection of claims 4, 5, 18, 19, 24, and 25, Forslow in view of Inoue in further view of Lager in further view of Rao discloses that the first packet has a payload portion containing a General Packet Radio Service Tunneling Protocol (GTP) data (Forslow: col. 4, lines 13-24, where the PDUs are sent using GTP), the GTP data containing the private network address (Inoue: col. 3, lines 8-15, where some IP networks utilize private addresses due to a shortage of global, i.e. public, addresses, see also col. 3, lines 31-35).

20. Regarding claim 14, incorporating the rejection of claims 4, 5, 18, 19, 24, and 25, Forslow in view of Inoue in further view of Lager in further view of Rao discloses receiving the first packet from a Serving General packet radio service Support Node (SGSN) in the first wireless network, the first node comprising the General Packet Radio Service support node (Forslow: col. 3, lines 36-41, where the originating serving GPRS node is an SGSN).

21. Regarding claim 15, Forslow in view of Inoue in further view of Lager in further view of Rao discloses sending the second packet to a GGSN in a second wireless network, the second node comprising the GGSN (Forslow: col. 3, lines 36-41, where the destination GPRS serving node is a GGSN).

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22. Regarding claim 16, Forslow in view of Inoue in further view of Lager in further view of Rao discloses receiving the first packet from the SGSN associated with a first public land mobile network (PLMN) and sending the second packet to the GGSN associated with a second PLMN (Lager: Figs. 2 and 3 and col. 4, lines 24-41).

23. Regarding claim 20, Forslow in view of Inoue in further view of Lager in further view of Rao discloses that the first wireless network is associated with a first network operator and the second wireless network is associated with a second network operator (Inoue: col. 3, lines 1-15, where the private address space is operated by a large organization that uses a different addressing configuration than the public internet or another large organization, see also col. 4, lines 29-37).

24. Regarding claim 21, Forslow in view of Inoue in further view of Lager in further view of Rao discloses that the interface is adapted to receive the data packet comprising an Internet Protocol packet (Forslow: col. 4, lines 18-24, where the packet is sent over an IP network, see also col. 3, lines 25-35).

25. Regarding claim 28, Forslow in view of Inoue in further view of Lager in further view of Rao discloses that translating the private network address in the payload portion of the data packet is performed by identifying a string in the payload portion containing the private network address (Rao: col. 4, lines 60-67, where a table is used “to identify application specific embedded addressing information in IP packets,” see also col. 4, lines 9-19).

26. Regarding claims 29-33, incorporating the rejection of claims 4, 5, 18, 19, 24, and 25, Forslow in view of Inoue in further view of Lager in further view of Rao discloses that receiving the first data packet comprises receiving the first data packet having the payload portion that

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contains a Packet Data Protocol (PDP) Context Create request, the PDP Context Create request containing the private network address of the first node (Forslow: col. 3, lines 56-59, where a PDP context is created in the GGSN to enable communication with the outside IP network).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Daniel J Ryman
Examiner
Art Unit 2616

Daniel Ryman